

EXHIBIT A

TQ Delta, LLC

v.

CommScope Holding Company, Inc., CommScope Inc.,

Direct Examination of Prof. Vijay K. Madisetti

008 and 835 Patent Infringement Analysis

'008 Patent Infringement Analysis

14[Preamble] – A multicarrier system including a first transceiver that uses a plurality of carrier signals for modulating a bit stream, wherein each carrier signal has a phase characteristic associated with the bit stream, the transceiver capable of:



VDSL2 Standard

Plurality of Carrier Signals

Table 12-68 – Bit mapping for R-P-MEDLEY with two bytes per DMT symbol

Subcarrier index	Constellation point
5, 10, 15, ..., 5 n, ...	00
1, 11, 21, ..., 10 n + 1, ...	SOC message bits 0 and 1
2, 12, 22, ..., 10 n + 2, ...	SOC message bits 2 and 3
3, 13, 23, ..., 10 n + 3, ...	SOC message bits 4 and 5
4, 14, 24, ..., 10 n + 4, ...	SOC message bits 6 and 7
6, 16, 26, ..., 10 n + 6, ...	SOC message bits 8 and 9
7, 17, 27, ..., 10 n + 7, ...	SOC message bits 10 and 11
8, 18, 28, ..., 10 n + 8, ...	SOC message bits 12 and 13
9, 19, 29, ..., 10 n + 9, ...	SOC message bits 14 and 15

NOTE – The byte is given as (b7, b6, b5, b4, b3, b2, b1, b0), where b7 is the MSB and b0 is the LSB. Mapping, e.g., "SOC message bits 0 and 1" to subcarriers $10n+1$ means that the two-bit value (b1,b0) shall be used to determine the constellation point in accordance with the encoding rules given in clause 10.3.3.2. This constellation point will then be scrambled using the quadrant scrambler described in clause 12.3.6.2.

EX 034: G.993.2 (12/2011) at 261